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WE CLAIM:

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- 1. A controlled-release glucosamine composition comprising a therapeutically effective amount of a glucosamine component dispersed in a controlled-release matrix system capable of releasing said glucosamine in an amount and at a rate sufficient to maintain an effective glucosamine blood serum level over a designated time period, said controlled-release matrix system comprising a controlled-release component which comprises at least one water soluble cellulose polymer.
- 2. A controlled-release glucosamine composition of Claim 1, wherein said glucosamine component is selected from the group consisting of N-acetyl-D-glucosamine, glucosamine hydrochloride, glucosamine sulfate and mixtures thereof.
 - 3. A controlled-release glucosamine composition of Claim 2, wherein a daily dosage of said glucosamine ranges from about 2 mg to about 45 mg per kilogram of body weight.
 - 4. A controlled-release glucosamine composition of Claim 3, wherein said daily dosage is from about 14 mg to about 29 mg per kilogram of body weight.
 - 5. A controlled-release glucosamine composition of Claim 4, wherein said daily dosage is about 21 mg per kilogram of body weight.
- 6. A controlled-release glucosamine composition of Claim 1, wherein said controlled-release component comprises at least one water soluble high molecular weight cellulose polymer.

A controlled-release glucosamine composition of Claim 1, wherein said controlled-release component is selected from the group consisting of hydroxypropyl methyl

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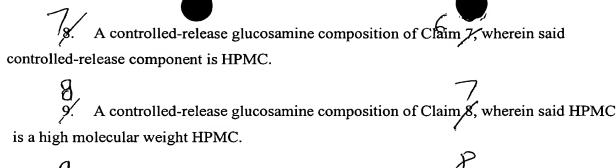
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A controlled-release glucosamine composition of Claim, wherein said HPMC consists of fine particulates having a particle size such that not less than 80% of the HPMC particles pass through an 80 mesh screen and said HPMC is present in an amount from about 8 to about 12wt%, based upon total weight of the composition.

A controlled-release glucosamine composition of Claim 1, wherein said composition is in a form suitable for oral administration.

A controlled-release glucosamine composition of Claim 1, wherein said controlled-release matrix system is capable of releasing said glucosamine at a substantially constant rate over a designated time.

13. A controlled-release glucosamine composition of Claim 12, wherein said designated time period is selected from the group consisting of about 6, 8, 12 and 24 hours.

14. A controlled-release glucosamine composition of Claim 13, wherein said designated time period is about 12 hours.

A controlled-release glucosamine composition of Claim 1, further comprising a therapeutically effective amount of chondroitin sulfate.

16. A unit dosage for controlled delivery of glucosamine comprising a glucosamine component dispersed in a controlled-release matrix system comprising a controlled-release component capable of providing a release profile which results in a substantially constant glucosamine release rate over a designated time period.

The unit dosage of Claim 16, which is a tablet.



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18. The unit dosage of Claim 17, wherein said tablet comprises HPMC is an amount of from about 8 to about 12 wt%, said HPMC having a molecular weight of about 85,000, and wherein said designated time period is about 12 hours.

19. A method for the treatment of conditions having an inflammatory component comprising:

administering to a human or animal having a condition with an inflammatory component a composition which contains a therapeutically effective amount of a glucosamine component dispersed in a controlled-release matrix system capable of releasing said glucosamine in an amount an at a rate sufficient to maintain an effective glucosamine blood serum level over a designated time period, said controlled-release system comprising a controlled-release component which comprises at least one water soluable cellulose polymer.

A method of Claim 19, wherein said glucosamine component is selected from the group consisting of N-acetyl-D-glucosamine, glucosamine hydrochloride, glucosamine sulfate and mixtures thereof.

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21. A method of Claim 19, wherein a daily dosage of said glucosamine ranges from about 14 mg to about 29 mg per kilogram of body weight.

21, 20, A method of Claim 19, wherein said composition is in a tablet form.

27. A method of Claim 22, wherein said tablet comprises a high molecular weight HPMC in an amount from about 8 to about 12 wt %.

24. A method of Claim 23, wherein said tablet releases said glucosamine at a substantially constant rate over a designated time period.

25. A method of Claim 24, further comprising:

maintaining a substantially constant glucosamine release rate, by continually repeating the administering step at the expiration of said designated time period, so as to relieve the inflammatory component of said condition.

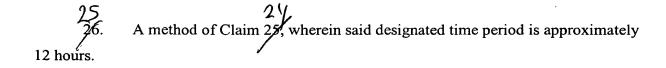
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27. A composition for the treatment of arthritis without adversely effecting glucose regulation, said composition comprising a therapeutically effective amount of a glucosamine component dispersed in a controlled-release matrix system capable of releasing said glucosamine in an amount and at a rate sufficient to maintain an effective glucosamine blood serum level for treatment of arthritis, but not to exceed a glucosamine blood serum level which will affect an adverse change in glucose regulation, over a designated time period.

A composition of Claim 21, wherein said adverse change in glucose regulation is manifested by increased insulin resistance.

29. A composition of Claim 27, wherein said glucosamine component is selected from the group consisting of N-acetyl-D-glucosamine, glucosamine hydrochloride, glucosamine sulfate and mixtures thereof.

36. A composition of Claim 27, wherein a daily dosage of said glucosamine ranges from about 14 mg to about 29 mg per kilogram of body weight.

30 31. A composition of Claim 21, wherein said rate is less than 100 micrograms/min/kg body weight.

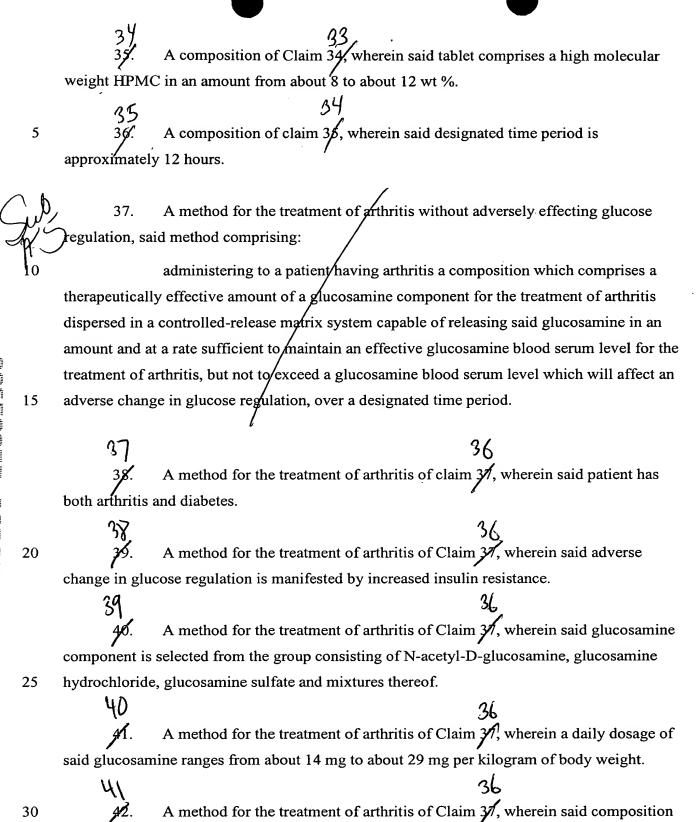
32. A composition of Claim 27, wherein said composition is in a form suitable for oral administration.

32. A composition of Claim 27, wherein said controlled-release matrix system releases said glucosamine at a substantially constant rate over a designated time period.

34. A composition of Claim 38, wherein said composition is in the form of a tablet.

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is in a tablet form.



A method for the treatment of arthritis of Claim 42, wherein said tablet releases said glucosamine at a substantially constant rate over a designated time period. A method for the treatment of arthritis of Claim 43, wherein said tablet comprises a high molecular weight HPMC in an amount from about 8 to about 12 wt %. 5 A method for the treatment of arthritis of claim 44, wherein said designated time period is approximately 12 hours. 49 A method for the treatment of arthritis of Claim 31, wherein said rate is less than 100 micrograms/min/kg body weight. 10 46 A method for the treatment of arthritis of Claim 27, further comprising: maintaining said glucosamine blood serum level, by continually repeating the administering step at the expiration of said designated time period, so as to relieve the symptoms of 15 arthritis. 46 A method for the treatment of arthritis of Claim 47, wherein said designated time period is approximately 12 hours.